

ENTOMOLOGY.—*Type specimens of mosquitoes in the United States National Museum: IV, The genus Culex (Diptera, Culicidae).*¹ ALAN STONE, Entomology Research Branch, U. S. Department of Agriculture, and KENNETH L. KNIGHT, Bureau of Medicine and Surgery, U. S. Department of the Navy²

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The introductory remarks in the first paper of this series, particularly those on early, possibly questionable holotypes, also apply to this one. Following our treatment of nominal taxa requiring special attention, we present a list of those in the collection based on unique specimens or for which holotypes were clearly designated.

Culex abominator Dyar and Knab, Smithsonian Misc. Coll. **52**: 257. 1909.

The lectotype from Plano, Tex., selected by King and Bradley (1937, p. 353), is in the collection.

Culex (C.) acharistus Root, Amer. Journ. Hyg. **7**: 578. 1927.

Both sexes were described, but there is only one type specimen in the collection now. This is a fragmentary male with the thorax and one leg on a pin and the terminalia on a slide. We select this specimen as lectotype. The data are: "Água Limpa, Brazil, March 27, 1925. F. M. Root No. 64-1."

Culex (C.) aglischrus Dyar, Ins. Insc. Mens. **12**: 121. 1924.

The syntypes were three females and three males selected from 80 specimens. These are in the collection and we select as lectotype a male bearing the labels "1904/B2/Barranquilla, Colomb./L. H. Dunn Coll. 1923/Type No. —U. S. N. M." The terminalia are on slide no. 1904.

¹ Earlier papers in this series are: *I, The genera Armigeres, Psorophora, and Haemagogus*, Journ. Washington Acad. Sci. **45**: 282-289. 1955; *II, The genus Aedes*, *ibid.* **46**: 213-228. 1956; *III, The genera Anopheles and Chagasia*, *ibid.* 276-280. 1956.

² Studies upon which this paper is based were conducted under an exchange of funds from the Office of Naval Research (Biological Science Division) to the Smithsonian Institution. The opinions or assertions contained here are the private ones of the writers and are not to be construed as official or reflecting the views of the Navy Department or the Naval Service at large.

Culex aikenii Dyar and Knab, Proc. U. S. Nat. Mus. **35**: 61. 1908.

The three male syntypes are in the collection, all bearing the labels "Feb. 17, 08/J. Aiken Collector/Bred from larvae /F6 ♂ / from long syphon larva 17.2.08 / Type No. 11977 U.S.N.M. / *Culex aikenii* D. & K." We select one of these as lectotype. The terminalia of none of the specimens have been cleared.

Lutzia allostigma Howard, Dyar, and Knab, Mosquitoes of North and Central America and the West Indies **3**: 471. 1915.

The original description gives no indication of the number of specimens in the type series, but lists 11 localities in Nicaragua and Panama with dates of collection and collectors for most of them. The type no. 14501 is given, but no specimens bear type labels, and only the name was entered in the type catalogue. Although a considerable number of topotypic specimens in the collection were with little doubt before the describers, there are only 13 specimens that agree in locality, date, and collector with the original data. We select as lectotype a male bearing the labels "149 / A. H. Jennings Collector / Sec Slide No. 592 / Las Cascadas, Canal Zone, Panama / Jan. 16, 08". The terminalia are on slide No. 592 and this bears the number 149.8. The larval and pupal skins for this rearing number have been mounted on another slide.

Culex (Mochlostyrax) alogistus Dyar, Ins. Insc. Mens. **6**: 126. 1918.

The specimen from Surinam that Rozeboom and Komp (1950, p. 87) accepted as lectotype is in the collection. These authors are in error in stating that Dyar selected a lectotype, but we consider Rozeboom and Komp to have selected it. The mounted terminalia, pinned adult, and associated larval skin are all part of the same lectotype, but the slide of the larval skin could not be found.

Culex amitis Komp, Ann. Ent. Soc. Amer. **29**: 333. 1936.

Two male syntypes were originally stated to be deposited in the U. S. National Museum. We have found only the male terminalia of one specimen from Quiriquire, Venezuela, June 14, 1935, mounted on a slide. We select these terminalia as lectotype of the species.

Culex (Choeroporpa) aneles Dyar and Ludlow, Military Surgeon **50**: 63. 1922.

This species was described from a male and a female syntype collected at Cardenas, Canal Zone, February 11, 1921. They are both in the collection, and we select as lectotype the male, mounted on a slide and bearing the label "Type No. 25069 U.S.N.M."

Culex anips Dyar, Ins. Insc. Mens. **4**: 48. 1916.

This species was described from a pair of specimens from San Diego, Calif., and assigned type no. 20304. These specimens are in the collection, and we select as lectotype the male with terminalia mounted on slide no. 747.

Culex (Melanoconion) antillum-magnorum Dyar, Mosquitoes of the Americas: 344, 1928.

Three of the four male syntypes are in the collection, the one numbered Pazos 786 not having been found. We select as lectotype the one bearing the labels "416 / Slide 785 / Cotype No. 40778 U.S.N.M." This was collected by J. H. Pazos at San Antonio de los Baños and the terminalia are mounted on slide no. 785.

Culex apateticus Howard, Dyar, and Knab, Mosquitoes of North and Central America and the West Indies **3**: 321, 1915.

This species was described from an unstated number of males and females and assigned type no. 12707. According to the type catalogue there were eight specimens, and according to the original description these were collected by A. H. Jennings at Tabernilla, Canal Zone, December 12, 1908, and Upper Pequini River, March 27, 1909. There are six specimens with Jennings' numbers in the collection bearing the label "Type no. 12707 U.S.N.M." Three are numbered 498 and were collected at Porto Bello, February 19, 1909, and are therefore not of the type series; two bear the number 454 and were collected at Tabernilla, December 15, 1908. Since Jennings' notes show

no collections made on December 12, we can assume that the date was incorrectly transcribed and that these are the Tabernilla types. One specimen is numbered 522 and was collected on the Upper Pequini River, March 27. Since this specimen is a male bearing exact original data, we select it as lectotype. The terminalia are on slide no. 512.

Culex (Microculex) aphyllactus Root, Amer. Journ. Hyg. **7**: 584. 1927.

This species was described from one male and two females, but the only type material in the collection consists of the male terminalia on a slide. The data are "Rio Soberbo, Brazil, May 1, 1925, F. M. Root No. 79." We select this fragment as lectotype of the species.

Culex ascyphae Dyar and Knab, Ins. Insc. Mens. **3**: 112. 1925.

The syntypes consist of one female and three males. We select as lectotype a male labeled "RPI, New Providence, Bahamas 1915 / Collection Dr. H. G. Dyar / Slide 748 / Type No. 19978 U.S.N.M." The terminalia are on slide no. 748.

Culex badgeri Dyar, Ins. Insc. Mens. **12**: 125. 1924.

The syntypes are a male and a female, and we select the male as lectotype. This bears the labels "1945 / 34A / Bakersfield, Cal. Jan. 29, 1924 / C. K. Badger / Type No. — U.S.N.M." The terminalia are on slide no. 1945.

Culex bahamensis Dyar and Knab, Journ. New York Ent. Soc. **14**: 210. 1906.

This species was described from larvae only, collected in the Bahamas by T. H. Coffin. No adults were reared. No material in the collection is marked as type, but there are four larvae on one slide labeled "*bahamensis* Coffin." There is no other larval material from the Bahamas in the collection, and so we think that this is, with little doubt, the original material, and we select the larva nearest the label as lectotype.

Culex basilicus Dyar and Knab, Proc. Biol. Soc. Washington **19**: 169. 1906.

The five syntypes are in the collection, all bearing the labels "Trinidad W.I. / F. W. Ulrich Collector / Type No. 10021 U.S.N.M." Although only the female and larva were described, one of the syntypes is a male. We select as lectotype

the female bearing the additional labels "26-10 / *Culex basilicus* D. & K. Type." Since there are two specimens labeled 26-10, it is not possible to establish the larval skin of the lectotype, nor has one bearing this number been found.

Culex bastagarius Dyar and Knab, Proc. Biol. Soc. Washington **19**: 170. 1906.

It is not entirely clear from the original description whether this is based on a single male from Laventille, Trinidad, or also on two others from Arima, Trinidad. Only the first one bears a type label, and to establish this specimen as type without question we select it as lectotype.

Fragments of a larval skin of this specimen are on one slide and the terminalia are on slide no. 275.

Culex bidens Dyar, Ins. Insc. Mens. **10**: 190. 1922.

The five syntypes bear the labels "Rosario Bolivia (L. Rocagua) Wm. M. Mann / Mulford Biological Exploration 1921-22 / Nov. 1921 / Type No. 25760 U.S.N.M." The single male bears the additional labels "1687 / *Culex bidens* Dyar Type." We select as lectotype this male, with terminalia on slide no. 1687.

Culex (Isostomyia) bifoliata Dyar, Ins. Insc. Mens. **10**: 94. 1922.

The four syntype males are in the collection. We select as lectotype the one bearing the labels "Miraflores, C.Z., Pan. 1921 / Dec. 15 / J. B. Shropshire Collector / 1644 / Type No. 25254 U.S.N.M." The terminalia are on slide no. 1644.

Culex (Carrollella) bihaicolus Dyar and Nuñez Tovar, Notas Sobre Nuevos Dípteros Hematófagos de Venezuela, Maracay: 4. 1927.

This species was described from an unstated number of specimens of both sexes collected by Nuñez Tovar in the flowers of *Heliconia bihai* in July 1927 at Ocumare de la Costa, Venezuela. There are four specimens in the collection, labeled "Maracay, Aragua, Venezuela VII.5.1927 M. Nuñez Tovar Coll. Bihai." Since these are not topotypic and since the only specimen from Ocumare de la Costa was collected August 12, we must assume that the syntype series is not in the collection. It is probable that these four specimens were labeled following the second publication of the name in English (Dyar and Nuñez Tovar, 1928, p. 91).

Micraedes bisulcatus Coquillett, Proc. Ent. Soc. Washington **7**: 185. 1906.

Two syntypes are in the collection, one male and one female, bearing the labels "Guadeloupe, W.I. July / Aug. Busek Collector / Type No. 8291 U.S.N.M.," the male syntype from Santo Domingo not having been found. We select as lectotype the male bearing the additional labels "82.3 / 1648 / *Micraedes bisulcatus* Coq.," with terminalia on slide no. 1648 and the larval and pupal skins on a second slide.

Culex bonncae Dyar and Knab, Ins. Insc. Mens. **7**: 3. 1919.

The two males and three female syntypes are in the collection, all labeled "3 / Paramaribo Dutch Guiana Mrs. J. Bonne-Wepster / *Culex palus*? Theobald / Type No. 21646 U.S.N.M." We select as lectotype the male with terminalia on slide no. 882. Five larval and two pupal skins of this series (no. 3) are mounted together on a slide.

Culex (Carrollia) bonnei Dyar, Ins. Insc. Mens. **9**: 155. 1921.

Dyar proposed this as a new name for what Dr. and Mrs. Bonne determined as *iridescens* Lutz in Surinam. He attached the U. S. N. M. type no. 24862 to a male and two females collected by Mrs. Bonne-Wepster in Surinam. One female bears the label "*Carrollia iridescens* Lutz" in Mrs. Bonne's hand. The male has had the terminalia clipped but no slide has been found bearing them. However, we select this male as lectotype, hoping that the terminalia slide will eventually be found in the collection.

Culex (Choeropora) borinqueni Root, Amer. Journ. Hyg. **2**: 400. 1922.

This species was described from an unstated number of males, females, and larvae from Rio Piedras, Martin Pena, and Aguirre, Puerto Rico. There is a male and a female labeled type in the collection, and we select as lectotype the male, bearing the labels "Rio Piedras, Porto Rico, July 7, 1921 F. M. Root / *Culex (Choeropora) borinqueni* Root 1922 Type ♂." The terminalia have not been mounted.

Lutzia brasiliæ Dyar, Ins. Insc. Mens. **11**: 67. 1923.

The syntypes consist of one male and one female collected by A. Lutz in São Paulo, Brazil.

We select as lectotype the male, with terminalia on slide no. 1778.

Culex brehmei Knab, Proc. Biol. Soc. Washington **29**: 161. 1916.

The published type number of this species is 20411, and there are in the collection 13 specimens (of an original 15), each bearing the label "Type No. 20411 U.S.N.M." Only one specimen bears the locality label, which is "Newark, N. J. 12. VI. 1916 H. H. Brehme." The original locality is given as Laurence Harbor, Middlesex County, New Jersey, and the specimens emerged from pupae April 29 and 30, 1916. There are no specimens in the collection bearing the original published data, but perhaps the specimens were labeled before Knab received the correct data on the material, which had been sent to him in June, and when he did get the field notes and rearing data he did not correct the label on the specimen. We believe that this can be considered the type series, and we select as lectotype the female, with the locality label cited above and the label "*Culex brehmei* Knab. Types."

Culex caraibeus Howard, Dyar, and Knab, Mosquitoes of North and Central America and the West Indies **3**: 257. 1915.

The syntype series consists of four females, each bearing the labels "59 / Barbados, W. I. July / Aug. Busck Collector / Type No. 12207 U.S.N.M." Two other specimens bear the same labels except for the type label. We select as lectotype the specimen bearing the additional label, "*Culex caraibeus* D. & K. Type." Although the larva was described, there are no larval skins individually associated with the specimens.

Culex carcinophilus Dyar and Knab, Journ. New York Ent. Soc. **14**: 220. 1906.

This species was described from larvae collected from crab holes near Santo Domingo City by Busck (nos. 89 and 94). We select as lectotype, larval skin no. 89.3 with associated pupal skin and male.

Culex carmodyae Dyar and Knab, Journ. New York Ent. Soc. **14**: 210. 1906.

This species was described from larvae only, collected in two localities in San Domingo. These are represented by Busck numbers 88 and 151. There are five specimens bearing these numbers in the collection, two males and three females, but

the larval skins of only two of the females have been found. We select as lectotype larval skin no. 151.2. The associated pupal skin and female are also lectotypic. The larva was collected in a slow running water course in the San Francisco Mountains, Santo Domingo, West Indies, September 28, 1905.

Mochlostyrax caudelli Dyar and Knab, Journ. New York Ent. Soc. **14**: 224. 1905.

This species was described from larvae collected by Busck (no. 47) at Arima, Trinidad, June 15, 1905. There are six adults of this series (no. 47) in the collection. None of them is associated with a larval skin, but there is a slide with two larval skins and one larva, and we select as lectotype the larval skin farthest from the label.

Culex (Chocroporpa) cenus Root, Amer. Journ. Hyg. **7**: 591. 1927.

Root refers to this as a common species with males bred from several places, but there is only one male, bearing the labels "Type No. 40527 U.S.N.M. / Magé, Brazil June 21, 1925, No. 115-1 / *Culex (Chocroporpa) cenus* Root. Type." We select this male, with terminalia on a slide, as lectotype.

Culex (C.) chidesteri Dyar, Ins. Insc. Mens. **9**: 117. 1921.

The two male syntypes are in the collection, bearing the labels "Colon Hosp. Screen, Pan. June 24, 1921 / W. F. Chidester Coll. / Thru James Zetek / Type No. 24716 U.S.N.M." We select as lectotype the one with the additional labels "1520 / *Culex chidesteri* Dyar Type" with terminalia on slide no. 1520.

Culex chryselatus Dyar and Knab, Ins. Insc. Mens. **7**: 5. 1919.

The one male and two female syntypes are in the collection, all labeled "23 / Paramaribo Dutch Guiana Mrs. J. Bonne-Wepster / Type No. 21647 U.S.N.M." We select as lectotype the male with terminalia on slide No. 885. There are a number of larval and pupal skins, at least one of them from the original series, but they are not individually associated with the adult specimens.

Culex chrysonotum Dyar and Knab, Proc. U. S. Nat. Mus. **25**: 57. 1908.

The lectotype (male terminalia slide) selected by Rozeboom and Komp (1950, p. 88) is in the

collection. The pinned specimen from which these terminalia came is also lectotypic. The type data are "Ancon, C. Z., Pan., Aug. 14, 1908."

Culex comitatus Dyar and Knab, Proc. Ent. Soc. Washington **11**: 35. 1909.

The only specimens bearing type labels or entered in the type book are three males and three females. We select as lectotype the male labeled "Nat. City June 3 / Dyar & Caudell / See Slide No. 374 / Type No. 12201 U.S.N.M." The terminalia are on slide no. 374.

Culex conservator Dyar and Knab, Journ. New York Ent. Soc. **14**: 221. 1906.

The original material of this species, described from larvae only, was collected at St. Joseph, Trinidad, by Busck (no. 13) as well as other localities, but specimens other than those of series no. 13 were doubtfully determined by the authors. There are eight adults reared from this collection. We select as lectotype larval skin no. 13.12 with associated pupal skin on the same slide and associated male with terminalia unmounted.

Culex conspirator Dyar and Knab, Journ. New York Ent. Soc. **14**: 217. 1906.

This species was described from larvae collected at Almoloya, Mexico, and Las Loras, near Puntarenas, Costa Rica. No larval material from Las Loras has been found and only a few skins from Almoloya, although there are 20 adults of the Almoloya series. We select as lectotype larval skin No. 312f, with which is associated a pupal skin and a female that emerged July 24, 1905, and was labeled as type by Dyar.

Culex consternator Dyar and Knab, Proc. U. S. Nat. Mus. **35**: 59. 1908.

Thirty-five of the 39 syntypes are in the collection, a male and two females being labeled as types. We select as lectotype the male with terminalia unmounted. This is no. 429.1 of Knab's notes, and was reared from a larva collected at Córdoba, Veracruz, Mexico, March 7, 1908.

Culex (Choeroporpa) corentynensis Dyar, Ins. Insc. Mens. **8**: 65. 1920.

The lectotype (slide of male terminalia) from Surinam selected by Rozeboom and Komp (1950,

p. 89) is in the collection. The pinned adult from which the terminalia came is also lectotypic.

Culex coronator Dyar and Knab, Journ. New York Ent. Soc. **14**: 215. 1906.

This species was described from many larvae collected in Trinidad, Mexico, Guatemala, El Salvador, and Costa Rica. We select as lectotype larval skin No. 7.2 collected in St. Joseph, Trinidad, June 12, 1905, by August Busck. Associated with this is the pupal skin and an intact male reared from it, also lectotypic.

Mochlostyrax cubensis Dyar and Knab, Journ. New York Ent. Soc. **14**: 225. 1906.

This species was described from badly damaged larvae collected in Havana, Cuba. There are five adults in the collection, but they are not individually associated with larval skins. No original larval material has been found; so we assume that all the syntypic material is lost.

Culex (Choeroporpa) curryi Dyar, Ins. Insc. Mens. **14**: 112. 1926.

This species was described from a male and a female from Panama. We select as lectotype the male mounted whole on a slide. It was collected in the Mojinga River Swamp, April 20, 1926, by D. P. Curry.

Culex daumastocampa Dyar and Knab, Proc. U. S. Nat. Mus. **35**: 58. 1908.

The three syntypes are in the collection, two of them bearing type labels. We select as lectotype the only male, labeled "135.4 / A. H. Jennings Collector / Type No. 11967 U.S.N.M. / See Slide No. 402." The terminalia are on slide no. 402, and fragments of the larval skin on another slide.

Culex daumasturus Dyar and Knab, Journ. New York Ent. Soc. **14**: 220. 1906.

This species was described from larvae collected by Busck (no. 43) in leaf sheaths of a century plant on the pitch lake at La Brea, Trinidad. There are two pinned adults, one with an associated larval and pupal skin, of this series (no. 43). The larval skin is extremely fragmentary, but it is the only larval specimen available for lectotype designation, and therefore we so designate it, the fragmentary pupal skin and reared female also being lectotypic.

Phalangomyia debilis Dyar and Knab, Ins. Insc. Mens. 2: 58. 1914.

In describing this species, the authors refer to "Types and paratypes in the U. S. National Museum", etc. There are nine females and nine males in the collection, one female being labeled as type, and one male as allotype, and the remainder as paratypes. Each bears the label "Matucan, Peru, June-July 1913. 7300 ft. C. T. Brues." The "type" is in poor condition, with damaged thorax, one leg and one wing only remaining. Since the authors did not select a holotype or select a sex for the type in the original publication, we feel that it is permissible to select as lectotype one of the "paratype" males, with terminalia and three legs mounted on slides numbered 597 and 598.

Culex deceptor Dyar and Knab, Smithsonian Misc. Coll. 52: 257. 1909.

The two female and one male syntypes of this species are in the collection, all bearing the labels "Ft. White, Fla. H. Byrd / Type No. 32104 U.S.N.M." We select as lectotype the male with terminalia on slide no. 346.

Culex declarator Dyar and Knab, Journ. New York Ent. Soc. 14: 211. 1906.

This species was described from larvae collected in Trinidad (Busck no. 21). The collection contains two larval skins, two pupal skins, fragments of another of each, a female in balsam, and a pinned male of this series. We select as lectotype larval skin 21.1 with associated pupal skin and male. The male was labeled as type by Dyar, and the terminalia are on slide no. 268.

Culex decorator Dyar and Knab, Journ. New York Ent. Soc. 14: 218. 1906.

We have been unable to find any original material of this species, which was described from larvae that were brought to Washington alive but failed to complete their development. This material seems to have been from Busck lot no. 53, but no specimens have been found with this number.

Culex (Choeroporpa) degustator Dyar, Ins. Insc. Mens. 9: 39. 1921.

This species was described from two males, both in the collection. We select as lectotype the one labeled "Scott, Ark. 11 Aug. 09 / J. K. Thi-

bault Coll. / 1333 / Type No. 23833 U.S.N.M. / *Culex degustator* Dyar Type." The terminalia are on slide no. 1333.

Culex derivator Dyar and Knab, Journ. New York Ent. Soc. 14: 216. 1906.

This species was described from a larva or larvae collected at Córdoba, Mexico, by Knab. No adults were reared and no type larvae have been found.

Culex dictator Dyar and Knab, Smithsonian Misc. Coll. 52: 255. 1909.

The one female and five male syntypes are in the collection, and we select as lectotype a male bearing the labels "75.1 / Dominica, W. I. July / Aug. Busck Collector / Type No. 12099 U.S.N.M." The terminalia and larval skin of this specimen are on one slide.

Culex (Phalangomyia) diplophyllum Dyar, Amer. Journ. Hyg. 9: 509. 1929.

For this species Dyar wrote, "Types, two males, paratypes three males and sixteen females, Verrugas Canyon, Lima, Peru, April 5, 1928 (R. C. Shannon)." Nineteen of these specimens are in the collection, 6 males and 13 females. It is evident that Dyar miscounted the number of males. All the specimens bear red type labels, without number, but two males have "Type" written in the space for the number. We can assume that these are the two male "types" selected by Dyar, and we select as lectotype the one with terminalia on slide no. 2398.

Culex (Mochlostyrax) distinguendus Dyar, Mosquitoes of the Americas: 305. 1928.

The lectotype (slide of male terminalia) from Mojinga Swamp, Panama, selected by Rozeboom and Komp (1950, p. 89), is in the collection. The pinned specimen from which these terminalia came is also lectotypic.

Culex divisor Dyar and Knab, Journ. New York Ent. Soc. 14: 222. 1906.

The type series of this species, which was described only by key characters and a figure of the larva, consisted of specimens reared by Urich in Trinidad (B15). Ten adults of this series are in the collection and a number of fragmentary larval and pupal skins. The larval material is in such poor condition that selection of a lectotype

is of questionable value, but we select the fragmentary larval skin B15-6 with which is associated fragments of a pupal skin and an intact male, labeled by Dyar, "*Culex divisor* (sic) D & K. Type."

Culex (Melanoconion) dunni Dyar, Ins. Insc. Mens. **6**: 123. 1918.

The two syntypes, one of each sex, bear the labels "Mandingo R., Pan. C-93 L. H. Dunn / Type No. 21714 U.S.N.M." We select as lectotype the male, with terminalia on a slide.

Culex duplicator Dyar and Knab, Smithsonian Misc. Coll. **52**: 258. 1909.

The four male and one female syntypes are in the collection, all bearing the labels "S Frnesco Mts. St. Domingo, W. I., Sept. 05 / Aug Busek Collector / Type No. 1211 U.S.N.M." We select as lectotype the male with terminalia on slide no. 740.

Culex (Choeroporpa) dysmathes Dyar and Ludlow, Ins. Insc. Mens. **9**: 47. 1921.

All but one of the 14 syntypes are in the collection. We select as lectotype the male bearing the labels "1346 / Cativa, Pan. Oct. 19, 1920 / thru Dr. C. S. Ludlow / Type No. 23943 U.S.N.M. / *Culex (Choeroporpa) dysmathes* D. & L. Type." The terminalia are on slide no. 1346.

Culex educator Dyar and Knab, Journ. New York Ent. Soc. **14**: 217. 1906.

This species was described from larvae collected near the Aranjuez River near Puntarenas, Costa Rica, by Knab (no. 337). Since no isolations were made, the six adults reared from the series are not individually associated with their larval or pupal skins. A mass of broken larval skins and one larva on one slide are all the larval material of the type series in the collection. We do not select a lectotype, because the whole larva is in poor condition, and no larval skin is complete.

Culex egberti Dyar and Knab, Journ. New York Ent. Soc. **15**: 214. 1907.

This species was described from three females, all in the collection, from Warner's Camp, North Shore, Lake Okechobee, Fla., March 1906, J. H. Egbert Collector. One bears the red type label No. 10876, one bears the label in Knab's hand, "*Culex egberti* D. & K. Type," and the third is

labeled "*egberti*." We select as lectotype the first of these, which is the least rubbed.

Culex (Choeroporpa) egcymon Dyar, Ins. Insc. Mens. **11**: 68. 1923.

The syntypes consist of a male and four females collected at Tabernilla, C. Z., Panama, May 2, 1907, by A. Busck. These are in the collection, and we select as lectotype the male with three legs dry mounted and the rest on slide no. 1780.

Culex (Transculicia) eleuthera Dyar, Ins. Insc. Mens. **5**: 184. 1917 [1918].

The four syntypes are in the collection, all bearing the labels "Gov. Harbor, Bahamas 03 / T. H. Coffin Coll. #19 / Type No. 21570 U.S.N.M." We select as lectotype the intact male bearing the label "*Culex (Transculicia) eleuthera* Dyar Type."

Culex elevator Dyar and Knab, Journ. New York Ent. Soc. **14**: 217. 1906.

This species was described from larvae collected at Puerto Limón, Costa Rica, by Knab (No. 355). It was stated that adults were not bred, but there are four adults from this series, one female being labeled as type. Larval skin 355a is associated with the specimen labeled type. We select this larval skin, with head capsule missing, and the associated pupal skin, and reared female as lectotype of the species.

Culex elocutilis Dyar and Knab, Smithsonian Misc. Coll. **52**: 255. 1909.

The type series consisted of two specimens from Coscajar River, Porto Bello Bay, Panama. These specimens are in the collection, each bearing the labels "339. / Type No. 12051 U.S.N.M." The female is labeled "*Culex elocutilis* D. & K. type," and the male "*elocutilis*" and "See Slide No. 340." We select as lectotype the male, with terminalia on slide no. 340.

Culex equivocator Dyar and Knab, Journ. New York Ent. Soc. **15**: 203. 1907.

The five females and three male syntypes (Busck no. 49) are in the collection, a male and a female being labeled as types. We select as lectotype the intact male bearing the labels "49.10 / Tabernilla, Canal Zone, Panama / Collected by August Busck / Type No. 10873 U.S.N.M."

Culex eremita Howard, Dyar, and Knab, Mosquitoes of North and Central America and the West Indies **3**: 261. 1915.

There are three syntypes, a male and two females, in the collection. We select as lectotype the male bearing the labels "94.7 / St. Domingo W. I. Aug / Aug. Busck Collector / Type No. 12798 U.S.N.M. / See Slide No. 398 / *eremita*." The terminalia are on slide no. 398.

Mochlostygrax erraticus Dyar and Knab, Journ. New York Ent. Soc. **14**: 224. 1906.

This species was described from larvae only, collected by Dupre at Baton Rouge, La. King and Bradley (1937, p. 348) refer to a slide of one larval skin in the National Museum labeled "*Culex erraticus* D. & K. Dupre." Such a slide is in the collection, but it includes three larval skins. We select as lectotype the skin nearest the label.

Culex erythrorhox Dyar, Proc. U. S. Nat. Mus. **32**: 124. 1907.

This species was described from 80 specimens collected in California. One female only bears a type label, and this we consider the holotype. The labels on it are "Nigger Slough, June 6. 06 / Dyar & Caudell / Type No. 10009 U.S.N.M. / *Culex erythrorhox* Dyar Type."

Culex eumimetes Dyar and Knab, Proc. U. S. Nat. Mus. **35**: 61. 1908.

The 10 syntypes are in the collection, a male and a female being labeled as types. We select as lectotype the male, bearing number 437.6, with terminalia unmounted.

Culex (Choeroporpa) evansae Root, Amer. Journ. Hyg. **7**: 593. 1927.

The original material consisted of specimens reared from larvae collected in two places. The collection contains only two of the original specimens, both from Magé, Brazil, February 26, 1925, F. M. Root (No. 34). Both have U.S.N.M. type labels, but only the male is labeled "type" by Root. Larval and pupal skins of these two specimens are on one slide, and so it is impossible to determine with certainty which larval skin is associated with the male. We select the male, with terminalia on slide no. 34a as lectotype of the species.

Rozeboom and Komp (1950, p. 91) selected as lectotype a slide No. 30-1 from Magé, February

26, 1925. This was apparently an error in transcription of the number, since Root's No. 30-1 was from Porto das Caixas, Brazil, February 24, 1925, and is one of the syntypes of *C. excrucus* Root. The two slides are adjacent in the type slide collection, which presumably accounts for the error.

Culex (Melanoconion) excrucus Root, Amer. Journ. Hyg. **7**: 580. 1927.

Both sexes were described, but only a male of the type series is in the collection. This bears the data "Porto das Caixas, Brazil, Feb. 24, 1925, F. M. Root No. 30-1." The head is missing and the terminalia are on a slide. We select this specimen as lectotype.

Culex exilis Dyar, Ins. Insc. Mens. **12**: 127. 1924.

Only one of the two original male syntypes is in the collection. This bears the labels "Vladivostok, Siberia, Cockerell 1923 / 1950 / Type No. — U.S.N.M." The terminalia are on slide no. 1950. We select this specimen as lectotype.

Culex extricator Dyar and Knab, Journ. New York Ent. Soc. **14**: 211. 1906.

This species was described from larvae collected at Cedros, Trinidad, by Busck (no. 27). The only adult in the collection under *inflictus* (= *extricator*) of the original series is a female (No. 27xx) labeled "*Culex extricator* D. & K. Type." The larval skin of this specimen is in very poor condition, with the last abdominal segments and air tube missing. There are two larvae on a slide and other skins, pupae, and larvae in alcohol. Since all the material is in poor condition and of questionable identity, we do not feel justified in selecting a lectotype.

Culex factor Dyar and Knab, Journ. New York Ent. Soc. **14**: 212. 1906.

This species was described from larvae collected in four localities in Mexico. We select as lectotype larval skin no. 296s, collected by Knab at Tehuantepec, Oaxaca, Mexico, July 3, 1905. With it are associated the pupal skin and male, the skins and the male terminalia being on slide no. 234.

Culex falsificator Dyar and Knab, Smithsonian Misc. Coll. **52**: 257. 1909.

There are seven females and one male in the collection, all bearing the labels "Havana Cuba /

J. R. Taylor Coll. 2/15/14/ U.S.D.A. No. October 25, 1908, by Major Fuller. There are 10399." Four of these specimens bear type labels. Since there were only seven original syntypes, it is not possible to say which of the four not labeled as type is not syntypic, and Dyar and Knab might have miscounted. We select as lectotype the single male with terminalia on slide no. 408.

Culex federalis Dyar, Ins. Insc. Mens. **11**: 187. 1923.

The syntypes are two males, both in the collection, with the terminalia of both mounted on a single slide. We select as lectotype the specimen with terminalia mount no. 1821. The data are "Regino Balzanario, Xochimilco, D. F. Mex. 1923."

Culex (Neoculex) fidelis Dyar, Ins. Insc. Mens. **8**: 180. 1920.

Three of the four syntype males are in the collection, bearing the labels "Los Baños, P. I. 28. VII.1915 / Type No. 23720 U.S.N.M." We select as lectotype the specimen bearing Dyar's determination and type label with terminalia on slide no. 1309.

Mochlostyrax floridanus Dyar and Knab, Proc. Biol. Soc. Washington **19**: 171. 1906.

This species was described from larvae only collected at Estero, Fla., by J. B. Van Duzee. No specimens have been found bearing the type no. 10025 given by Dyar and Knab. There is one larval skin labeled "*Culex pilosus* D. & K." mounted since Dyar's time, that bears original data, but one cannot be certain that it is one of the type specimens of *floridanus*. In the absence of specimens labeled as the type series, we must assume that no material is available for lectotype designation.

Culex fragilis Ludlow, Journ. New York Ent. Soc. **11**: 142. 1903.

The male and female were described from Oras, Samar, Philippine Islands. There are 18 specimens in the collection bearing unnumbered type labels, one male being labeled "*Culex fragilis* Ludlow, Types, Oras, Samar, P. I., Aug. 6, 02..." Presumably all are of the same collection. We select as lectotype this male, with terminalia on slide no. 45.IX.10a.

Oculiomyia fulleri Ludlow, Can. Ent. **41**: 97. 1909.

The syntypes consisted of several females collected at Parang, Mindanao, Philippine Islands,

seven specimens bearing unnumbered type labels. A female bears the label "*Oculiomyia fulleri* n. sp. Parang, Mindanao, Oct. 28, 8 p. m.", and a male is labeled "*Oculiomyia fulleri* Ludlow, male types, Parang, P. I., Feb. 21. Fuller." Since this male does not bear original data and since the female only was originally described, we select as leucotype the female bearing nearly the original data.

Culex (Microculex) gairus Root, Amer. Journ. Hyg. **7**: 583. 1927.

The male and larva were described apparently from several specimens, but the collection contains only one male of the type series. This bears the data "Rio, Brazil, Feb. 15, 1925. No. 22c." The male terminalia of this specimen are on one slide and the associated larval and pupal skins on another. We select this male as lectotype.

Culex jenningsi var. *gaudeator* Dyar and Knab, Journ. New York Ent. Soc. **15**: 204. 1907.

See *Culex jenningsi*.

Culex gravitator Dyar and Knab, Journ. New York Ent. Soc. **14**: 218. 1906.

This species was described from larvae collected at Córdoba, Mexico, June 14, 1905. Although specimens of this no. 261 series have been found, there are no *Culex* larval skins, but only those of *Aedes*, with which the culture became contaminated later. We must consider that there is no type material in existence.

Culex habitator Dyar and Knab, Journ. New York Ent. Soc. **14**: 212. 1906.

This species was described from larvae collected in Santo Domingo, August 10, 1905, by Busck (no. 102). We select as lectotype larval skin no. 102.2 with associated pupal skin and male. The terminalia are on slide no. 409.

Culex hesitator Dyar and Knab, Journ. New York Ent. Soc. **15**: 205. 1907.

The seven syntypes of this species, bearing the labels "75 pupae / Las Cascadas, Canal Zone, Panama / Collected by August Busck" are in the collection, one pair labeled as types. We select as lectotype the male of this pair with terminalia unmounted.

Culex ignobilis Dyar and Knab, Proc. Ent. Soc. Washington **11**: 39. 1909.

This species was described from four specimens collected at San Antonio de los Baños, Cuba, by J. H. Pazos. There are four pins bearing type no. 12239, but the specimen is missing from one. The only data are four different Pazos numbers. We select as lectotype the specimen no. 648 bearing a determination label, with a hind leg mounted on slide no. 424.

Culex incriminator Dyar and Knab, Smithsonian Misc. Coll. **52**: 257. 1909.

The two male and one female syntypes, all bearing the labels "Agric. Coll. Miss. 8-18-05 / W. V. Reed Collector / Type No. 12105 U.S.N.M." are in the collection. We select as lectotype the male with terminalia on slide no. 407.

Culex (Mochlostyrax) inducens Root, in Dyar, Mosquitoes of the Americas: 307, 1928.

The female and male were described from Venezuela, with no indication of the number of specimens and no type selection. There are four male and one female specimens of the Root material in the collection. Two of the males (157.1 and 157.2) are labeled as "Types" and the entire abdomens of both are on one slide. A third male, bearing the same data "Sombrero, Ven., Aug. 10, 1927, No. 157," is intact. We select the abdomen to the right, farthest from the determination label, as lectotype. It is not possible to determine from which pinned specimen this abdomen came. It should be noted that the slide is labeled Maracay, not Sombrero.

Culex inhibitor Dyar and Knab, Journ. New York Ent. Soc. **14**: 216. 1906.

This species was described from larvae collected in the San Francisco Mountains of Santo Domingo by Busek (no. 135). The collection contains a slide of approximately seven larvae in poor condition, a fragmentary larval and pupal skin with an associated female, and four other pinned adults. Female no. 135.1, for which no associated immature skins have been found, was labeled as type by Dyar. Since the larval material is so poor, we have not selected a lectotype.

Culex inimitabilis Dyar and Knab, Journ. New York Ent. Soc. **14**: 221. 1906.

This species was described from larvae only

collected by Urich in Trinidad. There are two adult specimens collected by Urich in Trinidad, but no associated larval skins have been found. We must assume that the larval material has been lost and there are no specimens available for lectotype designation.

Culex inquisitor Dyar and Knab, Journ. New York Ent. Soc. **14**: 211. 1906.

This species was described from larvae collected in Trinidad, Dominica, Mexico, and Costa Rica. We select as lectotype larval skin No. 29.1 collected by Busek June 27, 1905, at Montserrat, Trinidad. There is an associated pupal skin and female. The female bears the label "*Culex inquisitor* D. & K. Type." The locality was given as Cedros, Trinidad, but this does not agree with Busek's notes.

Culex (C.) interfor Dyar, Mosquitoes of the Americas: 372, 1928.

The two male and three female syntypes are in the collection. We select as lectotype the male bearing the labels "2364 / 532 / at light on train / bet. Tucuman and Jujuy, Argentina / M.Kisiuk Jr. May 4, 1927." The terminalia are on slide no. 2364.

Culex interrogator Dyar and Knab, Journ. New York Ent. Soc. **14**: 209. 1906.

This species was described from larvae collected at Rincón Antonio, Mexico. There are 10 pinned adults reared from these larvae. We select as lectotype larval skin no. 270y. This was collected June 23, 1905, by Knab. With it is the associated pupal skin and adult male which can be considered lectotypic also. We have mounted the skins on slide no. 231, which also bears the male terminalia.

Culex investigator Dyar and Knab, Journ. New York Ent. Soc. **14**: 216. 1906.

This species was described from a larva or larvae collected in Santa Lucrecia, Mexico, by Knab. There is no specimen labeled as type and only a larval head capsule and poor pupal skin from the original material. Knab's notes for this specimen (265a) state that the larval skin may not belong with this pupa. Since the specimen is uncertainly associated and nearly worthless, we do not think that it should be selected as lectotype.

Culex invocator Pazos, An. Acad. Cienc. Habana **45**: 426. 1908; Dyar and Knab, Smithsonian Misc. Coll. **52**: 258. 1909.

This species, credited to Dyar and Knab by Pazos and described as new in the Dyar and Knab reference, must be credited to Pazos by priority. We think that the type material can be considered the same for the two publications of the name. The syntype series was given as 16 specimens. The collection contains 22 collected by Pazos in Cuba, bearing numbers but no data, and two of them bear type labels. We select as lectotype the male of this pair, with terminalia on slide no. 337.

Culex jenningsi Dyar and Knab, Journ. New York Ent. Soc. **15**: 204. 1907.

There are 13 specimens of Busck series no. 191 in the collection under this name. A male and a female bear the label "Type No. 10867 U.S.N.M.," and are two of the four syntypes of *jenningsi*. We select as lectotype the male, with terminalia unmounted. Another pair of specimens bear the label "Type No. 10871 U.S.N.M." and are two of the seven syntypes of *Culex jenningsi* var. *guadeator* Dyar and Knab. We select the male of this pair with terminalia unmounted as the lectotype of this variety. It is difficult to say which of the other nine specimens not bearing type labels are the other two and five syntypes, respectively, of *jenningsi* and *guadeator*. All the specimens were collected at Tabernilla, C. Z., Panama.

Culex jubulator Dyar and Knab, Journ. New York Ent. Soc. **15**: 201. 1907.

Twelve of the 16 syntypes have been found, a male and a female being labeled as types. We select as lectotype the male bearing the labels "3 / Taboga I., Panama / A. H. Jennings Collec- / Type No. 16916 U.S.N.M."

Culex lactator Dyar and Knab, Journ. New York Ent. Soc. **14**: 209. 1906.

This species was described from larvae collected in several places in Mexico and Costa Rica. There are no specimens labeled as type, but there are many that were reared from the type localities and with associated larval and pupal skins. We select as lectotype larval skin no. 270i, collected at Rincón Antonio, Mexico, June 23, 1905, by Knab. With it is associated a pupal skin and

an adult male with terminalia on slide no. 226. The adult was labeled "*lactator*" and the slide "*Culex lactator*." The larval and pupal skins have been mounted on the same slide as the male terminalia.

Culex lamentator Dyar and Knab, Journ. New York Ent. Soc. **14**: 219. 1906.

This species was described from larvae collected in the San Francisco Mountains, Santo Domingo, August 28, 1905, Busck no. 124. There are nine individually reared adults as well as a number of others mass-reared. Dyar labeled specimen 124.1 as the type, and since all the individually reared specimens are females, we select as lectotype the larval skin of this specimen. The pupal skin is on the same slide.

Tinolestes latisquama Coquillett, Proc. Ent. Soc. Washington **7**: 185. 1906.

The lectotype from Limón, Costa Rica, selected by Rozeboom and Komp (1950, p. 92) is in the collection.

Culex leprincei Dyar and Knab, Journ. New York Ent. Soc. **15**: 202. 1907.

This species was described from 16 specimens collected at Tabernilla and Pedros Miguel, Canal Zone, Panama, by August Busck. A male and a female are labeled as types in the collection, and there are eight other specimens from Tabernilla that are presumably syntypes. No early material from Pedro Miguel has been found. We select as lectotype the male "type" with terminalia unmounted.

Culex (Choeroporpa) ligator Dyar, Ins. Insc. Mens. **12**: 123. 1924.

The syntypes are two females and one male. We select as lectotype the male, bearing the labels "1910 / Barranquilla. Colomb. / L. H. Dunn Coll. 1923 / Type No. — U.S.N.M." The terminalia are on slide no. 1910.

Culex lactator var. *loquaculus* Dyar and Knab, Smithsonian Misc. Coll. **52**: 254. 1909.

The original description states, "We have selected six specimens as types from the Panama Canal Zone." We find only one specimen bearing the label "Type No. 12050 U.S.N.M.," and no others that can be definitely recognized as of the syntype series. We select this female, from Corozal, as the lectotype.

Culex (C.) lygrus Root, Amer. Journ. Hyg. **7**: 579. 1927.

Both sexes of this species were described, but the only type material in the collection consists of a male bearing the data "Magé, Brazil, June 21, 1925, No. 115.2." The terminalia are on a slide. We select this specimen as lectotype.

Culex mastigia Howard, Dyar, and Knab, Mosquitoes of North and Central America and the West Indies **3**: 426. 1915.

There are two male and two female syntypes in the collection. We select as lectotype a male bearing the label "793 / See Slide No. 499 / Type No. 12679 U.S.N.M." The terminalia are on slide no. 499. The type locality is San Antonio de los Baños, Cuba.

Culex (C.) mari Dyar, Mosquitoes of the Americas: 387. 1928.

The two male syntypes, both mounted on slides, are in the collection. We select as lectotype the one on slide no. 2360 labeled "San Pedro, Arg. June 11, 1927, M. Kisliuk Jr., Type." Some of the legs of this specimen remain on a pin mount. The other slide is also labeled "Type."

Culex (Choeroporpa) marinocca Dyar, Ins. Insc. Mens. **8**: 71. 1920.

The lectotype (slide of male terminalia) from Surinam, selected by Rozeboom and Komp (1950, p. 92) is in the collection. The pinned adult from which the terminalia came is also lectotypic.

Culex (Choeroporpa) merodaemon Dyar, Ins. Insc. Mens. **9**: 100. 1921.

It was not clear from the original description that a holotype was selected for this species. The collection contains the original 32 specimens collected at Orotina, Costa Rica, Dec. 20, 1920, one male being labeled as type, the other specimens as paratypes. We consider this male, with terminalia on slide no. 1391, as the holotype.

Culex (Carrollia) metempsyla Dyar, Ins. Insc. Mens. **9**: 154. 1921.

The syntype series consisted of "seven males and eleven females, No. 24863 U. S. Nat. Mus.; Alajuela, Costa Rica, July and August 1921 (A. Alfaro)." These specimens are in the collection. We select as lectotype an intact male collected July 4.

Culex (Microculex) microphyllus Root, Amer. Journ. Hyg. **7**: 586. 1927.

The original description referred to specimens from both Rio de Janeiro and Magé, but there is only one specimen in the collection. This male bears the data "Magé, Brazil, May 26, 1925, F. M. Root No. 92-1." We select as lectotype this male, with terminalia on a slide.

Culex carmodyae mollis Dyar and Knab, Proc. Biol. Soc. Washington **19**: 171. 1906.

The four male and two female syntypes are in the collection, bearing numbers 27-1 to 27-6, respectively. Only one female (27-5) bears the red type label and a label in Dyar's hand, "*Culex carmodyae* subsp. *mollis* D. & K. Type." Since the recognition of this taxon is dependent upon the male terminalia, we have selected as lectotype male no. 27-4, with terminalia on slide no. 233, and fragmentary larval and pupal skins on a second slide.

Culex (Mochlostyrax) moorei Dyar, Ins. Insc. Mens. **6**: 108. 1918.

The one male and two female syntypes are in the collection, and we select as lectotype the male bearing the labels "19 / larvae in ditch Plm. Plaisance, Georgetown, B. G. April 10, 1910. H. W. B. Moore / See Slide No. 571 / Type No. 21573 U.S.N.M." The terminalia are on slide no. 571.

Culex mortificator Dyar and Knab, Journ. New York Ent. Soc. **14**: 210. 1906.

This species was described from larvae only collected at Zent, Costa Rica, September 26, 1905, by Knab. All the larvae died before pupating. No original specimens have been found.

Culex mutator Dyar and Knab, Journ. New York Ent. Soc. **14**: 216. 1906.

Rozeboom and Komp (1950, p. 93) selected as lectotype a slide of male terminalia No. 1811, Knab 259b. Since the original description is of a larva only, we do not consider these terminalia solely to be available for lectotype designation. The collection contains five specimens of the 259 series from Córdoba, Mexico, bearing museum type labels, and two are also labeled in Dyar's hand, "*Culex mutator* D. & K. Type." Fortunately the larval and pupal skins of specimen 259b were found. These have been mounted, and

the larval skin, except for the loss of antennae and head hairs, agrees well with Dyar and Knab's original description. We select this as lectotype and can consider the pupal skin, the pinned adult which emerged June 14, 1905, and the terminalia slide as lectotypic also, thereby confirming Rozeboom and Komp's designation.

Culex neglectus Bourroul, Mosquitoes do Brasil: 27. 1904.

Although this species has been credited to Lutz, the original description is in that portion of Bourroul's work not credited to Lutz; so it seems necessary to credit the description to Bourroul. Lane and Whitman (1951, p. 364) have selected a specimen in the U. S. National Museum as lectotype.

Culex nematoides Dyar and Shannon, Ins. Insc. Mens. 13: 84. 1925.

The syntypes of this species are six females and one male, all collected at "Hagthorpe, 2¾ miles south of hospital, August 5, 1922" [Philippines]. Since the male has no abdomen we select as lectotype one of the females.

Culex ocossa Dyar and Knab, Ins. Insc. Mens. 7: 6. 1919.

The six syntypes, three of each sex, are in the collection, all bearing the labels "14 / Type No. 21705 U.S.N.M. / Georgetown, Br. Guiana / H. W. B. Moore." We select as lectotype the only male with terminalia on a slide. This specimen also bears the authors' determination and type label.

Culex (Choeroporpa) oedipus Root, Amer. Journ. Hyg. 7: 588. 1927.

The single specimen in the collection is the male collected at Magé, Brazil, February 4, 1925, F. M. Root No. 8-1, with terminalia on a slide. Rozeboom and Komp (1950, p. 94) selected the terminalia slide as the lectotype, but the entire specimen can be considered lectotypic.

Culex (Choeroporpa) opisthopus Komp, Ins. Insc. Mens. 14: 44. 1926.

The two male and three female syntypes are in the collection. We select as lectotype a male bearing the labels "2177 / Pto. Castillo R., Honduras / III. 1925 W.H.W. Komp, Coll." The terminalia are on slide no. 2177.

Culex pallens Coquillett, Proc. U. S. Nat. Mus. 21: 303. 1898.

The ten original specimens are in the collection, one only bearing a type label (No. 3963) and Coquillett's determination label. This female we consider to be the holotype.

Culex (Melanoconion) panocossa Dyar, Ins. Insc. Mens. 11: 120. 1923.

The collection contains 18 of the original 19 syntypes, all from Bas Obispo, Canal Zone, February 1923. We select as lectotype a male with terminalia on slide no. 1809.

Lutzia patersoni Shannon and Del Ponte, in Dyar, Mosquitoes of the Americas: 268. 1928.

The two male syntypes are in the collection. We select as lectotype the specimen bearing the labels, "2356/San Pedro Jujuy 4.27.26/Ins. Bac. Ent. nota 44/Shannon & Shannon/*Lutzia argentiniae* S. & DP Type." The terminalia are on slide no. 2356. It is evident that the name of the species was changed before publication, since the name *argentiniae* was never published and the second syntype is also labeled *patersoni*.

Culex peccator Dyar and Knab, Smithsonian Misc. Coll. 52: 256. 1909.

The two male and nine female syntypes are in the collection, all bearing the same data. Rozeboom and Komp (1950, p. 94) selected as lectotype, "slide 396, J. K. Thibault, Scott, Ark. U.S.N.M.," bearing male terminalia. The specimen from which the terminalia came can also be considered lectotypic.

Culex (Mochlostyrax) peribleptus Dyar and Knab, Ins. Insc. Mens. 5: 181. 1917 [1918].

The two male and two female syntypes are in the collection, along with 22 other specimens bearing the same data. The males are both on slides, and we select as lectotype the one bearing the label "*Culex peribleptus* D. & K. Type, Parr Shoals, S.C. 18 Aug. 1915, Larvae in grasspond. T.H.D. Griffiths."

Mochlostyrax pilosus Dyar and Knab, Journ. New York Ent. Soc. 14: 224. 1906.

This species was described from larvae collected by Knab at Santa Lucrecia, Mexico, June 21, 1905 (No. 267). There are four pinned adults of this series (no. 267), but the one that

was labeled type by Dyar has no associated larval skin; so we select as lectotype larval skin no. 267b, with associated pupal skin and intact male.

Culex pinarocampa Dyar and Knab, Proc. U. S. Nat. Mus. **35**: 59. 1908.

Of the 117 syntypes of this species, 113 are in the collection, a female and a male only bearing type labels. We select as lectotype the male with terminalia unmounted. This was reared from a pupa collected at Córdoba, Veracruz, Mexico, January 31, 1908.

Culex (Choeroporpa) plectoporpe Root, Amer. Journ. Hyg. **7**: 589. 1927.

It is not evident from the original description whether it was based on more than one specimen. There is only one original specimen in the collection now, a male from Bangú, Brazil, June 11, 1925, F. M. Root no. 109-1, with terminalia on a slide. We select this male as lectotype.

Culex proclamator Dyar and Knab, Journ. New York Ent. Soc. **14**: 211. 1906.

This species was described from larvae collected by Knab at Santa Lucrecia and Almoloya, Mexico, and Puntarenas, Costa Rica. We found one male, six females, and seven larval and pupal skins of the original series, not all associated. We select as lectotype larval skin no. 262p. with associated pupal skin and pinned female.

Culex proximus Dyar and Knab, Proc. Ent. Soc. Washington **1**: 38. 1909.

There are three male and two female syntypes in the collection. We select as lectotype a male bearing the labels "5.10/Taboga I., Panama/A. H. Jennings Collector/See Slide No. 397/Type No. 12208 U.S.N.M./proximus." The terminalia are on slide no. 397.

Culex (Choeroporpa) psatharus Dyar, Ins. Insc. Mens. **8**: 173. 1920.

Rozeboom and Komp (1950, p. 95) selected a lectotype from Cólón, Panama, and this, with terminalia on slide no. 1318, is in the collection.

Culex reflector Dyar and Knab, Smithsonian Misc. Coll. **52**: 256. 1909.

The two male and two female syntypes from Ancon, Canal Zone, Panama, are in the collec-

tion, and we select as lectotype the better of the two males.

Culex regulator Dyar and Knab, Journ. New York Ent. Soc. **14**: 213. 1906.

This species was described from larvae collected by Busck (no. 119) in Santa Domingo, August 22, 1905. We select as lectotype larval skin No. 119.3 on slide no. 423, with associated pupal skin and male terminalia, the rest of the male being mounted on a pin.

Culex rejector Dyar and Knab, Journ. New York Ent. Soc. **14**: 221. 1906.

This species was described from larvae collected in a large bromeliaceous plant in Córdoba, Mexico. According to the authors, all the larvae died, and we have been unable to find any preserved larvae. Knab did collect and rear the species at Córdoba in 1908, and it may be desirable to select one of these specimens as a neotype in the future, but we prefer not to do so at the present time.

Culex restrictor Dyar and Knab, Journ. New York Ent. Soc. **14**: 222. 1906.

This species was described from a single larva collected by Knab at Almoloya, Oaxaca, Mexico, July 21, 1905. This was 311c of Knab's notes, and the larval skin is in very poor condition, with much of it missing. We have mounted these fragments and the associated female pupa, which did not produce an adult, on a slide, and this material constitutes the holotype.

Culex revelator Dyar and Knab, Journ. New York Ent. Soc. **15**: 202. 1907.

Two of the four syntypes have been found in the collection, one of each sex. We select as lectotype the male bearing the labels "25.2/Taboga I., Panama/A. H. Jennings Collector/See slide No. 341/Type No. 10917 U.S.N.M./revelator." The terminalia are on slide no. 341.

Culex revocator Dyar and Knab, Smithsonian Misc. Coll. **52**: 256. 1909.

The 25 syntypes are in the collection, 14 males and 11 females. We select as lectotype a male from Hope Gardens, Jamaica.

Culex (Mochlostyrax) rooti Rozeboom, Ann. Ent. Soc. Amer. **38**: 251. 1935.

Only the male terminalia were described, and it was stated that the type slides had been de-

posited in the U. S. National Museum, no holotype being designated. There are two slides of male terminalia in the collection, labeled "collected near Panama City, R. de Panama, Nov. 24, 1934/Type No. 50942 U.S.N.M." One is labeled type, the other paratype, and we select the first as lectotype.

Culex salinarius Coquillett, Ent. News **15**: 73. 1904.

The only information on type specimens given in the original description is that they were bred from larvae collected in the salt marshes of New Jersey in the autumn of 1902. They had also been previously determined by Coquillett as *Culex nigrutilus* Zetterstedt. There are no specimens marked as types in the collection but two males and three females bear the labels "Elizabeth, N. J. VIII.30 [one of them X-VIII]/Slt Meadows, N.J.," and are, we believe, the original specimens. One female bears, in Coquillett's hand, "*Culex nigrutilus* Zett." and "*Culex salinarius* Coq." We select one of the males as lectotype.

Culex saxatilis Grossbeck, Can. Ent. **37**: 360. 1905.

Three of the six syntype females are in the collection, one labeled as type and the other two as cotypes. We select as lectotype the specimen bearing the labels "Garret Mts., N. J. IX.1/Paterson/*Culex saxatilis* Gross. ♀ type."

Culex simulator Dyar and Knab, Journ. New York Ent. Soc. **14**: 218. 1906.

This species was described from larvae collected by Busek at Arima, Trinidad, July 10, 1905. The only specimens in the collection are three larvae on one slide. We select as lectotype the larva farthest from the label.

Culex sphinx Howard, Dyar, and Knab, Mosquitoes of North and Central America and the West Indies **3**: 301. 1915.

There are 25 original specimens of this species in the collection, but only one female and one male bear type labels. We select as lectotype the male, bearing the labels "Nassau, Bahamas 7-2-03/T. H. Coffin Coll. #142/Type No. 12196 U.S.N.M./See Slide No. 394/*sphinx*." The terminalia are on slide no. 394.

Culex stenolepis Dyar and Knab, Proc. U. S. Nat. Mus. **35**: 60. 1908.

Of the 47 syntypes of this species 44 are in the collection, a male and a female bearing type labels. Since the male "type" has lost its abdomen, we select another male as lectotype. This bears the number 431.9 and the terminalia are on slide no. 780.

Culex stigmatosoma Dyar, Proc. U. S. Nat. Mus. **32**: 123. 1907.

This species was described from 321 specimens from California and Oregon. We consider as holotype the single specimen bearing the label "Type No. 10008 U.S.N.M." The additional labels are "Iss May 26 C78π/Dyar & Caudell/*Culex stigmatosoma* Dyar Type." This is a female, collected in a cement-lined pool at Pasadena, May 21, 1906.

Culex (Microculex) stonei Lane and Whitman, Rev. de Ent. **14**: 401. 1943.

This name was proposed for a species from Trinidad that had been determined by Dyar as *Culex ocellatus* Theobald. The authors also referred to this species, specimens collected in Surinam by Bonne and Bonne-Wepster. The collection contains eight of the Trinidad specimens and three from Surinam, but no types were labeled. We select as lectotype a male bearing the labels "24-4/Trinidad W.I./F. W. Ulrich/See Slide No. 247/*ocellatus*." The terminalia are on slide no. 247.

Culex (C.) surinamensis Dyar, Ins. Insc. Mens. **6**: 121. 1918.

The number of specimens in the syntype series was not originally stated. There are three females and four males from Paramaribo, Surinam, each bearing the label "Type No. 21912 U.S. N.M." We select as lectotype a male with the additional labels "21 Slide 975/Paramaribo, Surinam/Mrs. J. Bonne-Wepster Collector/*Culex surinamensis* Dyar Type." The terminalia are on one slide; the larval and pupal skins on another.

Culex (Choeroporpa) sursumptor Dyar, Ins. Insc. Mens. **12**: 123. 1924.

The syntypes are three females and a male. We select as lectotype the male, bearing the labels "1909/Barranquilla, Colomb./L. H. Dunn Coll. 1923/Type No. — U.S.N.M." The terminalia are on slide no. 1909.

Culex tarsalis Coquillett, Can. Ent. **28**: 43. 1896.

The original material consisted of one male and four females from the Argus Mountains and Folsom, Calif. There are four specimens in the collection from the former locality, but none from Folsom. Only one specimen, the male, bears a type label, and we select this as lectotype. The labels are "Argus Mts. April 91 K/Type No. 904 U.S.N.M./*Culex tarsalis* Coq."

Culex (Choeroporpa) tecmarsis Dyar, Ins. Insc. Mens. **6**: 124. 1918.

The lectotype (slide of male terminalia) from Trinidad River, Panama, selected by Rozeboom and Komp (1950, p. 97) is in the collection. The pinned adult from which this came is also lectotypic.

Culex (C.) thriambus Dyar, Ins. Insc. Mens. **9**: 33. 1921.

The three syntypes are in the collection. We select as lectotype the male bearing the labels "Y6/Kerrville, Tex. Aug. 20, 1920/H. G. Dyar Coll./1356/Type No. 23926 U.S.N.M./*Culex thriambus* Dyar Type." The terminalia are on slide no. 1356.

Culex toweri Dyar and Knab, Journ. New York Ent. Soc. **15**: 13. 1907.

This species was described from 39 specimens collected at Mayaguez, Puerto Rico, by W. V. Tower. There are 61 specimens bearing these data in the collection, but only one female bears a type label, and so we consider this the holotype.

Culex trachycampa Dyar and Knab, Can. Ent. **41**: 101. 1909.

This species was described from a male and a female. We select as lectotype the male, bearing the labels "54.1/Las Cascadas, Canal Zone, Panama/Collected by August Busck/Type No. 12194 U.S.N.M./See slide No. 401/*trachycampa*." The terminalia are on slide no. 401.

Culex (Helcoporpa) trifidus Dyar, Ins. Insc. Mens. **9**: 115. 1921.

Rozeboom and Komp (1950, p. 97) selected as lectotype "slide 1436, U.S.N.M." This slide has mounted upon it the terminalia of a specimen collected at Riverside, San José, Tiribi, Costa Rica, January 7, 1921, by A. Alfaro. These

terminalia and the specimen from which they came comprise the lectotype.

Culex (Microculex) trychnus Root, Amer. Journ. Hyg. **7**: 585. 1927.

The syntypes consisted of one male and one female, but only the male has been found in the collection. This bears the labels "Rio Soberbo, Brazil, May 1, 1925 No. 79/Type No. 40531 U.S.N.M./79-2/*Culex (Microculex) trychnus* Root Type." We select this male as lectotype. The terminalia are on a slide.

Culex (Mochlostyrax) unicornis Root, in Dyar, Mosquitoes of the Americas: 291, 1928.

Rozeboom and Komp (1950, p. 97) selected "specimen no. 1 (on left); slide labeled, Maracay, Venezuela, June 27, 1927. Nos. 92-1, 2, 3" as lectotype. They assumed that the male terminalia farthest from the red cotype label was No. 1. Since this is only an assumption, we cannot be sure from which pinned specimen this terminalia came, but accept the terminalia only as lectotypic.

Culex usquatissimus Dyar, Ins. Insc. Mens. **10**: 19. 1922.

The syntype pair is in the collection, and we select as lectotype the male bearing the labels "Toro Point, C. Z. 1921/Oct. 27/J. B. Shropshire Coll./1588/Type No. 25147 U.S.N.M./*Culex usquatissima* Dyar." The terminalia are on slide no. 1588.

Culex (C.) usquatus Dyar, Ins. Insc. Mens. **6**: 122. 1918.

The collection contains two male and three female syntypes, each bearing the labels "Type No. 21913 U.S.N.M./Paramaribo, Surinam/Mrs. J. Bonne-Wepster Collector/3." We select as lectotype the male bearing the additional labels "Slide 967/*Culex ousquatus* (sic) Dyar Type." The terminalia are on slide no. 967. There are a number of larvae and larval skins mounted on one slide, also labeled "Type."

Culex (Choeroporpa) vapulans Dyar, Ins. Insc. Mens. **8**: 69. 1920.

The lectotype (slide of male terminalia) from Surinam selected by Rozeboom and Komp (1950, p. 88) is in the collection. The pinned adult from which these terminalia came is also lectotypic.

Culex (Choeropora) vaxus Dyar, Ins. Insc. Mens. 8: 73. 1920.

The three original specimens are in the collection, one labeled as type, and the other two as paratypes. It is not clear from the original description that a type was selected, particularly since the specimens bear Bonne and Bonne-Wepster numbers but no locality other than Surinam and no dates of collection. We select as lectotype the specimen labeled "Type No. 22743 U.S.N.M./BBII 671." The terminalia are on a slide.

Culex vector Dyar and Knab, Journ. New York Ent. Soc. 14: 220. 1906.

This species was described from larvae collected from bromeliads in Trinidad by Ulrich. The only larval specimen we find is a larval skin No. B 12-1 with associated pupal skin and reared male. We select this series as lectotype.

Culex (Mochlostyrax) verillifer Komp, Ann. Ent. Soc. Amer. 29: 320. 1936.

Rozeboom and Komp (1950, p. 97) selected a lectotype (male terminalia on slide) from Barro Colorado Island, Canal Zone. We have found no pin mounted adults of the type series.

Culex vindicator Dyar and Knab, Smithsonian Misc. Coll. 52: 255. 1909.

This species was described from four specimens from Dominica collected by A. Busck in July. These consist of three males and one female, each with the label "Type No. 12098 U.S.N.M." The female also bears Dyar's label "*Culex vindicator* D. & K. Type." This is in poor condition. We select as lectotype one of the males, which bears the labels "74.25/Dominica, W.I. July/Aug. Busck Collector/Slide 776." The terminalia are on slide no. 776. The larval and pupal skins have been mounted on another slide.

Culex (Choeropora) rivylis Dyar, Ins. Insc. Mens. 8: 78. 1920.

The four original male specimens are in the collection, one labeled as type and the other three as paratypes. It is not clear from the original description that a type was selected, particularly since the specimens bear Bonne and Bonne-Wepster numbers, but no locality other than Surinam, and no dates of collection. Rozeboom and Komp (1950, p. 92) recognize the specimen labeled as type, No. BB714c, as the holotype,

and we recognize this as lectotype selection if this was necessary.

The following species are based either on unique specimens or on clearly designated holotypes:

- Culex (Aedinus) accelerans* Root, 1927.
- Culex (Choeropora) alfaroi* Dyar, 1921.
- Culex (Choeropora) andricus* Root, 1927.
- Culex (Phalangomyia) archeus* Dyar, 1929.
- Culex (Neoculex) arizonensis* Bohart, 1948.
- Culex aureopunctis* Ludlow, 1910.
- Culex (Choeropora) automartus* Root, 1927.
- Culex azymus* Dyar and Knab, 1906.
- Culex (Carrollia) babahoyensis* Levi-Castillo, 1953.
- Culex (Isostomyia) bamborum* Rozeboom and Komp, 1948.
- Culex barbarus* Dyar and Knab, 1906.
- Culex (Melanoconion) batesi* Rozeboom and Komp, 1948.
- Culex (Acallyntum) belkini* Stone and Penn, 1948.
- Culex (Choeropora) bequaerti* Dyar and Shannon, 1925.
- Culex (Choeropora) bibulus* Dyar, 1920.
- Culex bicki* Stone and Penn, 1947.
- Culex (Melanoconion) bilobatus* Galindo and Blanton, 1954.
- Culex (? Neoculex) binigrolineatus* Knight and Rozeboom, 1945.
- Culex (Isostomyia) browni* Komp, 1936.
- Culex (Neoculex) caeruleus* King and Hoogstraal, 1947 (terminalia only).
- Culex coronator camposi* Dyar, 1925.
- Culex (Melanoconion) caribeus* Galindo and Blanton, 1954.
- Culex (Lophoceraomyia) carolinensis* Bohart and Ingram, 1946.
- Culex (Melanoconion) changuinolae* Galindo and Blanton, 1954.
- Culex (Mochlostyrax) colombiensis* Dyar, 1924.
- Culex (Choeropora) comminutor* Dyar, 1920.
- Culex (Melanoconion) confundior* Komp and Rozeboom, 1951 (terminalia only).
- Culex consolator* Dyar and Knab, 1906.
- Culex corrigani* Dyar and Knab, 1907.
- Culex (Choeropora) crybda* Dyar, 1924.
- Culex (Choeropora) cuclyx* Dyar and Shannon, 1924.
- Culex delys* Howard, Dyar, and Knab, 1915.
- Culex (Choeropora) dornarum* Dyar and Shannon, 1924.
- Culex (Choeropora) dyius* Root, 1927 (terminalia only).
- Culex (Choeropora) eastor* Dyar, 1920.
- Culex (Melanoconion) elaphas* Komp, 1936.
- Culex (Microculex) elongatus* Rozeboom and Komp, 1950.
- Culex (Choeropora) epanastasis* Dyar, 1922.
- Culex (Microculex) erethyzonfer* Galindo and Blanton, 1954.
- Culex (Melanoconion) fairchildi* Galindo and Blanton, 1954.
- Culex (Choeropora) fatuator* Dyar and Shannon, 1924.
- Culex (Melanoconion) flabellifer* Komp, 1936 (terminalia only).
- Culex (Melanoconion) foliafer* Komp and Rozeboom, 1951 (terminalia only).
- Culex frickii* Ludlow, 1906.
- Culex fur* Dyar and Knab, 1907.

- Culex (Culiciomyia) fuscicinctus* King and Hoogstraal, 1946.
- Culex (Melanoconion) galindoi* Komp and Rozeboom, 1951 (terminalia only).
- Culex (Upsiloporpia) haynei* Komp and Curry, 1932 (terminalia only).
- Culex (Microculex) hcdys* Root, 1927 (terminalia only).
- Culex (C.) hensemacon* Dyar, 1920.
- Culex (Choeroporpia) holoneus* Dyar, 1921.
- Culex (Melanoconion) homocopas* Dyar and Ludlow, 1921.
- Culex (Choeroporpia) idothus* Dyar, 1920.
- Culex (Mochlostyrax) inaamirabilis* Dyar, 1928.
- Culex (C.) ineleqans* Dyar, 1920.
- Culex (Melanoconion) intonsus* Galindo and Blanton, 1954.
- Culex (Choeroporpia) iolambdis* Dyar, 1918.
- Culex (Neoculex) jenkinsi* Knight, 1953.
- Culex (Melanoconion) jocasta* Komp and Rozeboom, 1951 (terminalia only).
- Culex (Choeroporpia) jonistes* Dyar, 1920.
- Culex (Choeroporpia) jubifer* Komp and Brown, 1935 (terminalia only).
- Culex (Lophoceraomyia) kuhnsi* King and Hoogstraal, 1955.
- Culex (Melanoconion) kummi* Komp and Rozeboom, 1951 (terminalia only).
- Culex (Melanoconion) lacertosus* Komp and Rozeboom, 1951 (terminalia only).
- Culex (C.) laticlasper* Galindo and Blanton, 1954.
- Culex (Lophoceraomyia) lavatae* Stone and Bohart, 1944.
- Culex (Lophoceraomyia) leei* King and Hoogstraal, 1955.
- Culex (C.) lepostenis* Dyar, 1923.
- Culex (Melanoconion) limacifer* Komp, 1936 (terminalia only).
- Culex (C.) litoralis* Bohart, 1946.
- Culex (Melanoconion) loturus* Dyar, 1925.
- Culex (Melanoconion) lucifugus* Komp, 1936 (terminalia only).
- Culex (Choeroporpia) macaronensis* Dyar and Nuñez Tovar, 1927 (terminalia only).
- Culex (Culiciomyia) pullus maplei* Knight and Hurlbut, 1949.
- Culex (C.) annulirostris marianae* Bohart and Ingram, 1946.
- Culex (Lophoceraomyia) marksae* King and Hoogstraal, 1955.
- Culex marquesensis* Stone and Rosen, 1953.
- Culex (Neoculex) mattinglyi* Knight, 1953.
- Culex (Mochlostyrax) megapus* Root, 1927 (terminalia only).
- Culex (Helcoporpia) menytes* Dyar, 1918.
- Culex (Choeroporpia) meroneus* Dyar, 1925.
- Culex (Melanoconion) mistura* Komp and Rozeboom, 1951.
- Culex (Melanoconion) mulrennani* Basham, 1948.
- Culex (Mochlostyrax) mychonde* Komp, 1928 (terminalia only).
- Culex (Culiciomyia) nailoni* King and Hoogstraal, 1946.
- Culex (Neoculex) okinawae* Bohart, 1953.
- Culex (C.) ousqua* Dyar, 1918.
- Culex (Melanoconion) paracrydya* Komp, 1936.
- Culex (Carrollia) paraplesia* Dyar, 1922.
- Culex (Choeroporpia) pasadaemon* Dyar, 1921.
- Culex (Neoculex) pedicellus* King and Hoogstraal, 1947.
- Culex (Acallyntum) perkinsi* Stone and Penn, 1948.
- Culex (Transculicia) petersoni* Dyar, 1920.
- Culex (Choeroporpia) phlabistus* Dyar, 1920.
- Culex (Choeroporpia) phlogistus* Dyar, 1920.
- Culex (Mochlostyrax) pose* Dyar and Knab, 1918.
- Culex (Melanoconion) pseudotaeniopus* Galindo and Blanton, 1954.
- Culex putumayensis* Matheson, 1934.
- Culex (Melanoconion) quadrifolius* Komp, 1936 (terminalia only).
- Culex (Melanoconion) quasihibridus* Galindo and Blanton, 1954.
- Culex (Neoculex) reevesi* Bohart, 1948.
- Culex (Culiciomyia) ryukyensis* Bohart, 1946.
- Culex (Melanoconion) ruffinus* Dyar and Shannon, 1924.
- Culex (C.) saltanensis* Dyar, 1928.
- Culex (C.) scutatus* Rozeboom and Komp, 1948.
- Culex (Choeroporpia) serratimarge* Root, 1927.
- Culex (C.) summorosus* Dyar, 1920.
- Culex taeniopus* Dyar and Knab, 1907.
- Culex (Eubonnea) tapena* Dyar, 1919.
- Culex (Choeroporpia) terebor* Dyar, 1920 (terminalia only).
- Culex termi* Thurman, 1955.
- Culex (Choeroporpia) tosimus* Dyar, 1920.
- Culex (Lophoceraomyia) tuberis* Bohart, 1946.
- Melanoconion urichii* Coquillett, 1906.
- Culex vomerifer* Komp, 1932 (terminalia only).
- Culex (Melanoconion) westeriae* Komp and Rozeboom, 1951 (terminalia only). This is an emendation of *wepsteri*, since it was named after Mrs. C. Bonne-Wepster.
- Culex (Choeroporpia) ybarmis* Dyar, 1920.
- Culex (Melanoconion) zeteki* Dyar, 1918.

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The phenomena are our data, and behind them we cannot go except in imagination.—SCHOPENHAUER